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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/826, 744      04/07/97      IWASAKI

Y      SONY-P7325

<input type="checkbox"/>	EXAMINER
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LM02/0928

ONIJAOKU, C	
ART UNIT	PAPER NUMBER

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2712

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DATE MAILED:

09/28/99

Please find below and/or attached an Office communication concerning this application or proceeding.

**Commissioner of Patents and Trademarks**

## Office Action Summary

Application No. <b>08/826,744</b>	Applicant(s) <b>Iwasaki</b>
Examiner <b>Christopher Onuaku</b>	Group Art Unit <b>2712</b>

Responsive to communication(s) filed on Aug 30, 1999

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

### Disposition of Claims

Claim(s) 1-18 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

Claim(s) \_\_\_\_\_ is/are allowed.

Claim(s) 1-18 is/are rejected.

Claim(s) \_\_\_\_\_ is/are objected to.

Claims \_\_\_\_\_ are subject to restriction or election requirement.

### Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All  Some\*  None of the CERTIFIED copies of the priority documents have been

received.

received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_.

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

### Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). 3

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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### **DETAILED ACTION**

1. Upon reconsideration of the Office Action mailed 8/30/99, the Examiner agrees that the embodiment of Kassatly used to reject claim 1 does not disclose multiplexer that multiplexes signals stored in plurality of storage means. Although Kassatly discloses a multiplexer that multiplexes signals stored in plurality of storage means in another embodiment(see Fig.43, and claim 1 rejection), the examiner still considers the last Office Action to be in error, it is now vacated and replaced with this Office Action.

This Office Action uses another embodiment of the Kassatly reference to meet the claims as they are currently written (as per amendment received 1/7/99). Since this rejection could have been used against the claims as they were amended 1/7/99 (a new ground of rejection necessitated by amendment), this action is final.

2. The Information Disclosure Statement filed 3/9/98 by the applicant was considered by the examiner on 9/27/98. A copy of completed form PTO 1449 is enclosed

#### ***Response to Arguments***

3. Applicant's arguments with respect to claim 1 with respect to claimed multiplexer have been considered but are moot in view of the new ground(s) of rejection.

4. Applicant's arguments filed 6/7/99 have been fully considered but they are not persuasive.

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Applicant argues with respect to claim 11 that Kassatly fails to teach where these discs are employed. Kassatly clearly teaches in col.14, lines 1-3 that it would be desirable that the present VAD (video,audio and/or data) systems be compatible and usable with most, if not all of these conventional systems. It would have been obvious, therefore, to one of ordinary skill in the art that Kassatly would use the disk drives for the storage devices of Kassatly.

Applicant argues that the examiner's motivation for combining Kassatly with Windrem is not proper, that the examiner has failed to point out any teaching in Kassatly, Windrem, or the knowledge generally available to one of ordinary skill in the art that there are any "storage" or "memory storage" failures that need to be overcome. Also applicant argues that Kassatly fails to teach any disk drives. As showed above, Kassatly clearly teaches disk drives. Furthermore, the expected benefits from a manufacturing cost point of view of providing redundancy in the storage devices to contain potential failure of a disk array would themselves have been evidence of obviousness. Expected beneficial results are themselves evidence of obviousness. In re Hoffman, 556 F. 2d 539, 194 USPQ 126 (CCPA 1977); In re Skoll, 523 F.2d 1392, 187 USPQ 481, (CCPA 1975); and In re Skoner, 517 F.2d 947, 186 USPQ 80 (CCPA 1975).

The response to applicant's argument of motivation with reference to claim 3 in terms of Windrem teaching parallel disk array is similar to the response to applicant's argument in terms of Windrem teaching disk redundancy as stated above ( i.e., Expected beneficial results are themselves evidence of obviousness).

And, similarly to applicant's argument with respect to claims 9, and 12-13.

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Applicant's argument with respect to claims 4&14 is thoroughly addressed in the last Office Action. For clarity it is repeated. Applicant argues that examiner's assertion that in Nakayama the control data is added to the data signals during the process of recording process is incorrect since claims 4&1 set forth that the control data is demultiplexed before the recording process, not added during the recording process. Nakayama clearly teaches that the ID data 137a to 137f (control data) are added during data processing for recording, the details of the processing of the ID data is clearly shown in Nakayama (See col.7, line 10 to col.10, line 19). When Kassatly is modified with the teaching of Nakayama, it would have been obvious that the recorded data would be reproduced before being "multiplexed" by the channel selector 50 of Kassatly.

The same response is true for claims 5 and 15.

Applicant's motivation argument with respect to claims 6 and 16 are responded similarly to the response to similar arguments above. In addition Kassatly and Nakayama fail to disclose a plurality of audio and/or video data recording and reproducing apparatuses **being connected in parallel**, and wherein the input data stream and the output data stream are input and output among the plurality of audio and/or video data recording and reproducing apparatus, and which Windrem clearly teaches( see claim 6 rejection). Kassatly and Nakayama, as discussed in claims 4&14, clearly disclose audio and/or video data recording and reproducing apparatus. Windrem teaches a disk array. Kassatly, Nakayama and Windrem are combined to teach the limitations of

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claim 6. And, Kassatly, Nakayama, Morimoto and Windrem are combined to teach the limitations of claim 16.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1,7,10,11, 17 &18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kassatly ( US 5,790,177).

Regarding claims 1, Kassatly discloses in Fig.1,2,3&43 a digital video tape recorder apparatus and method in which video channels are simultaneously recorded in a recording mode comprising:

- a) the claimed receiving means for receiving a data stream in which a plurality of audio data and video data or one of the same are multiplexed in a predetermined order(see the reception process 14 for receiving and processing signals received from the transmitter 12; col.18, line 66 to col.19, line 35);
- b) the claimed demultiplexing means( see demultiplexer 30; col.19, line 36 to col.20, line 34); and

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c) the claimed plurality of recording/reproducing means(see channel 1 to channel n storage means 35 to 39, respectively; col.19, lines 49-55).

The current embodiment of Kassatly fails to show the claimed multiplexing means for multiplexing the reproduced each one in the predetermined order and generating an output data stream. In another embodiment Kassatly discloses wherein when a user wishes to combine the signals in two channels, the signals are caused to be released from their individual storage devices. The released signals are multiplexed by a multiplexer and then stored in a single storage device. The stored signals are then decompressed and viewed on a real time basis. It would have been obvious to add a multiplexer to multiplex any number of desired signals stored in the storage devices 35-39 in order to combine the signals for further processing.

Regarding claims 7&10, the limitations of claims 7&10 are accommodated in the discussions of claim 1 above.

Regarding claim 11, the limitations of claim 11 are accommodated in the discussions of claim 1 above, except for the disk drives( see col.13, line 64 to col.14, line 3)

Regarding claim 17, the limitations of claim 17 are accommodated in the discussions of claim 7 above.

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Regarding claim 18, the limitations of claim 18 are accommodated in the discussions of claim 1 above.

7. Claims 2-3, 8-9 & 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kassatly in view of Windrem et al (US 5,754,730).

Regarding claim 2, Kassatly fails to disclose wherein each of the plurality of recording means adopts a mirror configuration having a plurality of recording apparatuses for recording the same audio and/or video data. Windrem teaches a digital video recording system employing standard hard disk arrays wherein redundancy is provided through a redundant data controller 99 to handle possible failure of one drive in the array (col.2, lines 28-40). Therefore, it would have been obvious to modify Kassatly by realizing Kassatly with the Windrem redundancy system wherein redundancy is provided through a redundant data controller 99 to handle possible failure of one drive in the array

Regarding claim 3, Windrem further discloses wherein each of said plurality of recording means adopts an array configuration in which a plurality of recording apparatuses are connected in parallel. Windrem teaches in Fig 1 a disk array 12 comprising an array of disk drives wherein the array of disk drives provides sufficient bandwidth to record or play digitized video signals, allowing random access to video data (see Fig.1; disk array 12; col.1, lines 15-32, and col. 3, lines 31-52).

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Regarding claim 8, Windrem discloses wherein the demultiplexed each one is duplicated on more than one recording medium to perform backup of the demultiplexed each one (see redundant data controller 99, and col.2, lines 28-40).

Regarding claim 9, the claimed limitations of claim 9 are accommodated in the discussions of claim 3 above.

Regarding claim 12, the limitations of claim 12 are accommodated in the discussions of claim 2 above.

Regarding claim 13, the limitations of claim 13 are accommodated in the discussions of claim 3 above.

8. Claims 4, 5& 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kassatly in view Nakayama et al(US 4,947,271).

Regarding claim 4, Kassatly fail to explicitly disclose wherein control data is multiplexed on data stream, the demultiplexing means demultiplexes the control data multiplexed on the data stream, and provision is made for controlling a recording operation of the recording means and reproduction operation of the reproducing means based on the demultiplexed control data.

Nakayama teaches in Fig.7 a recording/reproducing means that in the recording process

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multiplexes recorded data signals to which ID data(control data) had been added. In the reproduction process, these multiplexed data signals are later reproduced, demultiplexed and the ID data extracted (see col.7, line 34 to col.10, line 19). It desirable to record data signals with their respectable control data (e.g. ID data ), and then multiplex the data signals with the control data in order to facilitate the recovery of the data signals during the reproduction process when the data signals are demultiplexed. To make these processes efficient there is inherently a control means that controls , based on the control data, the recording/reproduction of the data signals.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kassatly by realizing Kassatly with a means add control data to data signals, during the recording process, before multiplexing, as taught by Nakayama, in order to facilitate the recovery of the data signal, during the reproduction process when the data signals are reproduced and demultiplexed. Furthermore, it would have been obvious to realize Kassatly with a control means in order to make these controlled recording/reproduction processes efficient.

Regarding claim 5, Nakayama teaches wherein at least one of the plurality of recording means and the reproducing means further performs operation in synchronization with a synchronization signal of the data stream(see Fig.6, and col.3, lines 8-37).

Regarding claim 14, the limitations of claim 14 are accommodated in the discussions of claim 4 above.

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9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kassatly in view Nakayama et al(US 4,947,271), and further in view of Morimoto et al (US 5,841,941).

Regarding claims 5&15, Kassatly and Nakayama fail to disclose wherein at least one of the plurality of recording means and the reproducing means further performs operation in synchronization with a synchronization signal of the data stream. Morimoto teaches in Fig.9 an input encoded data stream which is first input to a recording block formatter 28. A unit information generator 27 retrieves unit information (sync. signal) from the input encoded data stream, so as to output the information to the recording block formatter 28 which formats the data stream so that the number M of successive transport packets are recorded as the number N of successive recording blocks. A reproducing head 9 outputs a reproduced signal from the recording medium 8. A reproducing processor 30 restores the data stream by performing a reproduction processing for the output reproduced signal (see col.13, lines 23-65). Here Morimoto teaches extracting the sync signal from an input encoded data stream and using the extracted sync signal to convert M successive transport packets to N successive recording packets and recording the converted signal on a recording medium. A reproducing system restores and reproduces the restored data stream based on the sync signal. The sync signal facilitates proper recording and reproducing of the data stream. It would have been obvious to one of ordinary skill in the art to further modify Kassatly by realizing Kassatly with a means to provide recording/reproducing sync signal in order to facilitate proper recording and reproducing of a data stream

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10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kassatly in view of Nakayama et al, and further in view of Windrem.

Regarding claim 6, Kassatly and Nakayama fail to disclose a plurality of audio and/or video data recording and reproducing apparatuses **being connected in parallel**, and wherein the input data stream and the output data stream are input and output among the plurality of audio and/or video data recording and reproducing apparatus. Windrem teaches in Fig 1 a disk array 12 comprising an array of disk drives which provide sufficient bandwidth to record or play digitized video signals, allowing random access to video data (see Fig.1; disk array 12; col.1, lines 15-32, and col. 3, lines 31-52). It would have been obvious to one of ordinary skill in the art to modify Kassatly by adding the disk array of Windrem to Kassatly since an array of disk drives provides sufficient bandwidth to record or play digitized video signals, allowing random access to video data.

11. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kassatly in view of Nakayama et al and Morimoto, and further in view of Windrem.

Regarding claim 16, the limitations of claim 16 are accommodated in the discussions of claim 6 above.

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12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Conclusion***

13. Any inquiry concerning this communication or earlier communications from this examiner should be directed to Christopher Onuaku whose telephone number is (703) 308-7555. The examiner can normally be reached on Tuesday to Thursday from 7:30 am to 5:00 pm. The examiner can also be reached on alternate Monday.

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Wendy Garber, can be reached on (703) 305-4929.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

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Washington, D.C. 20231

**or faxed to:**

(703) 308-9051, (for formal communications intended for entry)

**Or:**

(703) 308-5399 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA.,  
Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be direct  
to the Group receptionist whose telephone is (703) 305-4700.

*hco*  
COO

9/22/99

*THAI TRAN*  
PRIMARY EXAMINER